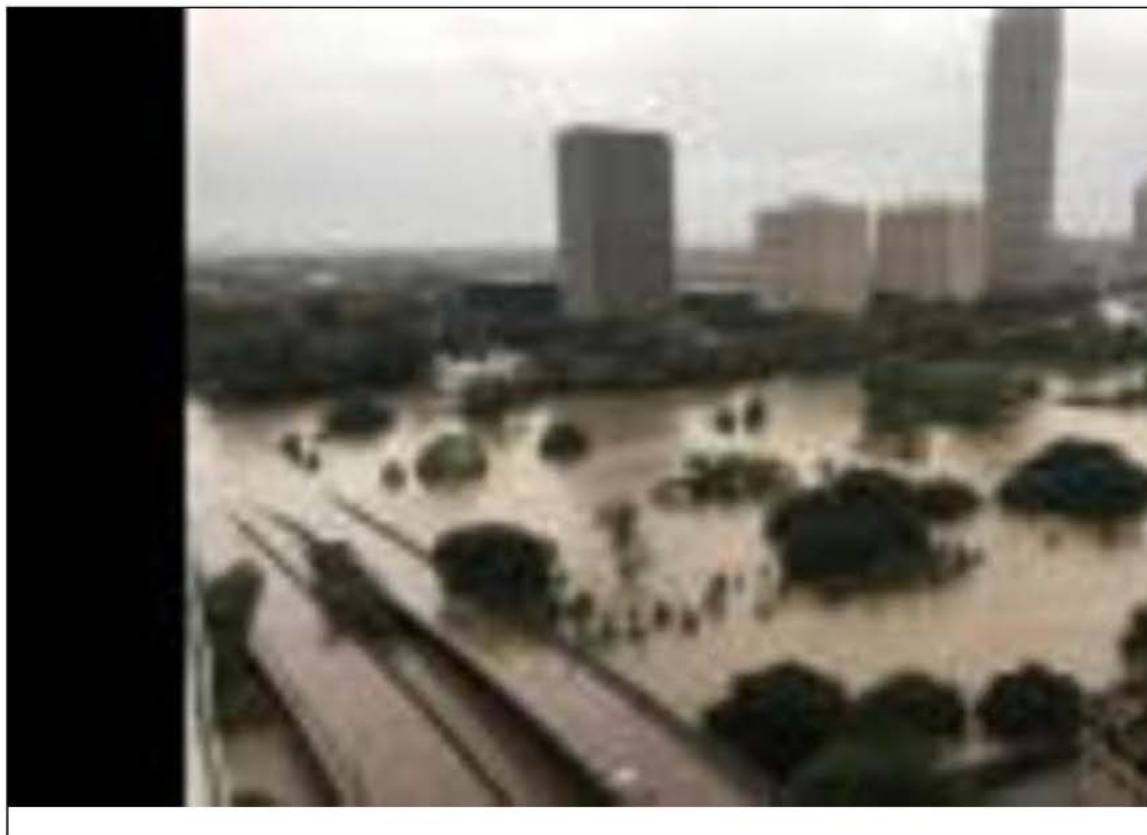


## Hurricane Harvey's pollution toll on air, water slowly comes into focus

STATE-GOVERNMENT



By [Ralph K.M. Haurwitz](#) - American-Statesman Staff



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### Highlights



- Fifty-five refineries and petrochemical plants emitted 5.8 million pounds of air pollutants, records show.
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- Oil and gas operators have reported spills totaling 568,000 gallons.

Fifty-five refineries and petrochemical plants in the Houston, Corpus Christi and Beaumont areas collectively emitted 5.8 million pounds of benzene, ammonia and other pollutants to the air in connection with Hurricane Harvey, according to reports filed by the companies with state regulators.

In addition, more than 560,000 gallons of crude oil, gasoline, saltwater and other contaminants spilled from wells, pipelines and storage tanks into coastal or inland waters, including the Colorado River southeast of Austin in Fayette County.

Meanwhile, 19 public drinking water systems serving 14,000 people remain inoperable and 77 other systems have warned consumers to boil tap water before drinking it, according to the [Texas Commission on Environmental Quality](#). Thirty-one sewage treatment systems are inoperable, with some treatment plants needing to be rebuilt from the ground up.

“The fact that those plants were almost certainly flooded means that raw sewage is in the floodwaters,” said Ilan Levin, the Austin-based associate director of the Environmental Integrity Project, an advocacy group.

Data on pollution related to Harvey have been in almost continual flux, as companies revise estimates and reports are investigated by state and federal authorities, including the Texas environmental commission, the federal Environmental Protection Agency, the Texas Railroad Commission, the Texas General Land Office and the U.S. Coast Guard.

“We still have teams out in the field working long hours trying to identify orphan containers, such as 55-gallon drums,” Texas environmental commission Chairman Bryan Shaw told the American-Statesman.

### **COMPLETE COVERAGE: Hurricane Harvey**

Many such drums and tanks broke loose from moorings amid flooding, especially along the coast. All must be assessed to determine what, if any, fuel or chemicals they contain. Shaw said 771 containers have been examined or relocated.

The public health impacts of much of the pollution has yet to be established.

On a brighter note, a number of water and wastewater systems that had been knocked out of service are now operational. For example, Beaumont’s water system, which serves about 260,000 people in the city and surrounding areas, has completed a two-step process, first resuming service and then, last weekend, lifting its boil-water notice.

And although 15 dams sustained varying degrees of damage, there have been no reports of harm to downstream property or loss of life, according to the Texas environmental commission and the EPA. The state commission said it would meet with affected dam owners in the next week.

### **Magellan spill was largest**

Records compiled by the Railroad Commission, which regulates the energy industry, list about 30

Harvey-related spills from oil wells, brine pits, storage tanks and pipelines totaling 568,000 gallons.

The lion's share — 420,000 gallons of gasoline — spilled from a storage tank farm in Galena Park, east of Houston, operated by Magellan Midstream Partners LP. Floodwaters caused two storage tanks to shift, releasing their contents, according to the Railroad Commission.

It was the largest spill of fuel or chemicals reported thus far from the storm, which made landfall in Texas last month. A Coast Guard official told The Associated Press that Magellan has recovered 84,000 gallons, while the rest evaporated or seeped into the ground.

Magellan said on its website that it sprayed the fuel with foam to suppress harmful vapors, adding that “a small amount” of fuel entered the Houston Ship Channel. Affected soil at the facility is being removed and replaced, the company said.

The Oklahoma-based company has a checkered history. Its Longhorn pipeline **spilled about 87,000 gallons of crude oil** in Bastrop County in July. Magellan previously agreed to pay \$18 million in remediation expenses and civil penalties related to three spills that fouled waterways in three states, including a 20,000-gallon spill in Texas City.

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A total of 47,000 gallons of crude oil and “produced water” — tainted water that comes out of wells along with oil — spilled into the Colorado from storage tanks that broke loose from piping at several locations leased by Houston-based EnerVest Ltd. in Fayette County. The company planned to reset the tanks, reconnect piping and put the wells back into production, according to the commission's records.

“Do we plan for storms and hurricanes? Absolutely,” EnerVest spokesman Ron Whitmire told the Houston Chronicle. “But nobody plans for 50-plus inches of rain.”

Nevertheless, “oil and gas operators are expected to maintain control of their wells and facilities regardless of the weather,” Railroad Commission spokeswoman Ramona Nye said. Administrative penalties are determined on a case-by-case basis, she said.

### **No reporting requirement for some spills**

Harvey underscores some regulatory gaps when it comes to oil spills. Although the state prohibits produced water spills and requires such spills to be cleaned up, it does not require operators to report such spills. And yet produced water can contain heavy metals, radioactive elements and other contaminants, said Luke Metzger, director of Environment Texas, an advocacy group.

There is no indication that pollutants have migrated away from any of the 51 Superfund toxic-waste sites in Harvey-affected areas of the state, Shaw said. However, two of those sites, both in Harris County, sustained damage and are undergoing repairs and further study.

An EPA dive team began underwater inspections this week at the San Jacinto River Waste Pits site, once used to dispose of paper-mill sludge, and repairs on the site's protective cap are also underway. At the U.S. Oil Recovery site, a former wastewater treatment and waste disposal operation, excess water has been removed and materials in former treatment tanks have been secured. Sampling is ongoing at the various Superfund sites to monitor for migration of pollutants.

The Coast Guard's National Response Center tracks oil spills and chemical releases to water or land. **An analysis of the response center's database** by the Environmental Integrity Project found about three dozen reports of Harvey-related releases in Texas. Such reports can be filed by companies, as well as by members of the public.

But the database is hardly a complete picture, Levin said: "We know that this is the tip of the iceberg."

### **READ: Information scarce on chemical plant blasts, just like Texas wanted**

A separate **Texas environmental commission database** tracks reports that companies are required to file on emissions of air contaminants. Fifty-six plants — 30 in the Houston area, 12 in the Corpus Christi region and 13 in the Beaumont area — have reported Harvey-related emissions, according to an analysis by Environment Texas. Often the emissions were associated with shutting down operations in advance of Harvey and while starting up afterward.

For example, the Port Arthur chemical plant of Flint Hills Resources, a unit of Koch Industries Inc., reported releasing 1.4 million pounds of contaminants, including nearly 800,000 pounds during shutdown and more than 600,000 pounds during startup. The chemicals included carbon monoxide, which is poisonous, and benzene, which is poisonous in the short term and a cause of cancer in the event of long-term exposure.

Claire Jackson, a Flint Hills Resources spokeswoman, said the startup and shutdown notifications filed with the commission estimate worst-case scenarios. "The actual emissions associated with this process will be filed with the TCEQ within two weeks," she said.

The health impacts of some of the pollution associated with Harvey are a matter of dispute and uncertainty.

Other than "a relatively high" ozone reading one day, the Texas environmental commission has not seen any readings that suggest the air has been potentially harmful in any acute way to the public, Shaw said. The EPA said elevated readings of benzene and volatile organic compounds in the Manchester neighborhood of Houston likely resulted from the roof failure and spill at a storage tank of light crude oil at the Valero Houston Refinery.

Environmentalists note that some air quality monitoring units in the Houston area weren't operating for a time.

"There isn't a way to measure what the ambient exposure would be for a community, but we do know anecdotally that people are smelling these chemicals and being exposed to them," Metzger said.

Bryan Parras, who was born and raised in East Houston and lives about 2½ miles from a few refineries and chemical plants along the Houston Ship Channel, said the odors during the storm were at turns sweet, sour, acidic and gasoline-like.

"It immediately had the effect of tightening up my nostril area, my sinuses, a couple of nights. It gave me a headache, nausea, dizziness, almost a feeling of being intoxicated with chemicals," said Parras, who is an organizer for the Sierra Club. "A lot of people talk about the water surge; what we experienced was a chemical surge."

Some residents in the vicinity of the **Arkema Inc. chemical plant** 25 miles northeast of Houston were evacuated and others were told to keep their windows closed when power went out and backup

generators flooded, causing organic peroxides to overheat, catch fire and explode. Numerous first-responders were treated for inhalation of acrid smoke, and some subsequently sued the company.

Arkema, which has described the lawsuit as “gravely mistaken,” reported to the Texas environmental commission that it emitted 23,600 pounds of chemicals, including ethyl benzene, which can cause headaches and irritate the eyes, skin and mucous membranes, and tert-butyl alcohol, which can cause vomiting and dizziness.

Andrea Morrow, a spokeswoman for the commission, said her agency would use its enforcement discretion on a case-by-case basis after reviewing final reports on air emissions from refineries and chemical plants.

Meanwhile, the General Land Office is investigating about 300 vessels that have run aground on the coast or otherwise broken away from their moorings, said Brittany Eck, an agency spokeswoman. The priority is to ensure that oil, gasoline or chemicals on board are secured.

*Editor's note: Figures have been updated for air emissions from refineries and petrochemical plants, as well as the number of sources of that pollution.*

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## About the Author



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by Nolan Hicks

Monday forecast for Austin: Call it the return of the summer doldrums. The heat and humidity are back again across the Austin area this week, as high temperatures remain stuck in the 90s and moist air from the Gulf makes it feel even warmer. Along with the

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by Nolan Hicks

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by Staff, American-Statesman staff

TRAVIS COUNTY SOUTH AUSTIN NAMIWalks 5K on Saturday The Austin affiliate of the National Alliance on Mental Illness will host the 12th annual NAMIWalks Austin 5K at 9 a.m. Saturday at the Long Center, 701 E. Riverside Drive. Activities and registration will begin at 7:30 a.m. The event will feature live music, face painting, petting zoo and games....

## Man charged with sexual assault after luring woman to car, police say

by Staff, American-Statesman staff

SOUTH AUSTIN Man charged with sexual assault Austin police say a man offered to drive a woman to her parked car but instead took her to his apartment and sexually assaulted her, according to court documents. The woman told police that a man offered her a ride as she was walking to her car from the OK Corral Nightclub on Ben White Boulevard in South...



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by Rachel Rice, Austin Community Newspapers Staff

During Museum Day at the Texas Department of Public Safety headquarters on Sunday, hardly anything was off limits – children could honk the horns of vintage patrol cars or a towering semi truck, they could climb inside an armored vehicle or onto the seat of a DPS

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